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REPORT OF THE
ADVISORY COMMITTEE ON URBAN TRANSIT
REQUIREMENTS FOR EDMONTON AND CALGARY

JANUARY, 1982

For the Honourable
Henry Kroeger
Minister of Transportation
Province of Alberta

December 10, 1981

The Honourable Henry Kroeger
Minister of Transportation
Province of Alberta
Room 418 Legislative Building
Edmonton, Alberta

Dear Mr. Kroeger:

The accompanying report from the Advisory Committee on Urban Transit Requirements for Edmonton and Calgary is hereby submitted. The report is a summation of information obtained from the Canadian and U.S. cities that were visited and includes recommendations which were formulated on the basis of our observations. No attempt has been made to provide an exhaustive inventory of the information received.

Our Committee considered the basic issue of Provincial funding and timing for the development of Light Rail Transit in Edmonton and Calgary. Because of increasing demands on public transit, it is evident that additional funds will be required for transit in the two Cities. Similarly, to support the economic development and projected urban growth, larger expenditures will be needed to continue the development of effective roadway systems.

Fundamental to the issue of funding for any urban transportation facilities are the costs for operating, maintenance, and rehabilitation of those facilities, in addition to the initial capital investment. Secondly, the matter of fiscal accountability by the levels of government for each of these areas must be addressed in the decision making process. Inherent in the examination of cost sharing responsibilities is the share the user pays, which is tending to increase in U.S. cities.

It has become apparent to our Committee that decisions with respect to urban transportation funding assistance by the Province should not be made in isolation. Accordingly our recommendations cover the general issues with the objective of providing direction to the Province relative to the continued development of effective transportation facilities in the cities.

The opportunity to serve as co-chairman on this assignment is appreciated. We are grateful to the members on our Committee for their assistance and to the cities and government agencies which we visited for their excellent cooperation and valuable input.

Yours very truly,

D. Dover
Co-Chairman ACUTREC

R.P. Wozniak
Co-Chairman ACUTREC

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1.0 INTRODUCTION

1.1 OBJECTIVE OF REPORT

The Advisory Committee on Urban Transit Requirements for Edmonton and Calgary (ACUTREC) was formed by the Provincial Minister of Transportation in cooperation with the Mayors of Edmonton and Calgary. This advisory committee was given the mandate to provide information and advice to the provincial government as to the desirability of accelerating the rate of construction of LRT in Edmonton and Calgary.

In arriving at this recommendation, the Committee was to consider current problems and practices elsewhere, but in particular was to review the reasons for the recent reductions in the United States federal government support to construction of urban rail transit. In carrying out its task, the Committee talked to a number of agencies across North America. This report includes both a summary of the information obtained, and detailed recommendations, on urban transportation policy.

The recommendations reflect and synthesize policy options which, if adopted, could improve urban transportation in Alberta. The recommended changes would not come cheaply nor easily, since both the Province and the Cities would have to make significant changes in their policies.

Implementation of some or all of the report's recommendations might prevent Alberta's cities from developing problems of the magnitude currently being experienced in many cities in North America. Thus the recommendations of the report go considerably beyond the initial mandate of the Committee as a reflection of the complexity of urban transportation problems in North America at this point in time and the Committee's desire to prevent the worst of the problems from arising in Alberta.

1.2 PURPOSE AND MEMBERSHIP OF COMMITTEE

Purpose of Committee

To provide information to the Minister which relates the experience, results and findings of other urban communities to the transit needs of Edmonton and Calgary as assistance in determining appropriate provincial transit funding policy.

Committee Membership

The Committee was co-chaired by the two members of the Committee who were designated by the Chambers of Commerce of Edmonton and Calgary. The balance of the Committee was made up of two members each, designated by the Mayors, from Calgary and Edmonton, and two members designated by the provincial Minister of Transportation. As shown by the attached list, the committee members have a good cross-section of experience with urban transportation matters.

1.3 PROCEDURES OF COMMITTEE

1.3.1 Specific Areas of Concern

It was agreed at the outset that the Committee was to gather information pertaining to financial issues, timing of transit decisions and nature of responsibilities for urban transit by various means, including, but not restricted to, discussion with officials/politicians in other areas and by interviews with experts. It was therefore agreed that an important phase of the assignment would be meeting with officials/experts in other cities in the U.S.A. and Canada. In order that the discussions in the cities be productive and efficient a list of questions was developed by the Committee and provided to the organization or contact person in each city in advance of the Committee visit to that city.

ADVISORY COMMITTEE ON URBAN TRANSIT REQUIREMENTS FOR EDMONTON AND CALGARY (ACUTREC)

Committee Responsibility	Name	Representing	Work Related Responsibilities
Co-Chairman	David Dover	Calgary Chamber of Commerce	Chairman, Calgary Transportation Authority; President Brake Drome
Co-Chairman	Roman Wozniak	Edmonton Chamber of Commerce	Vice-President, Manager, DeLCan, Consulting Engineers - Edmonton; Chairman of Urban Transportation Committee, Chamber of Commerce
	Nomi Whalen	City of Calgary	Principal, Gateway Environmental Planning Group Ltd.; Retired Alderman, City of Calgary
	Loyde Morasch	City of Calgary	General Manager, Calgary Transit, City of Calgary
	Rod Heise	City of Edmonton	General Manager, Transportation Systems Design, City of Edmonton
	L.O. (Buck) Olsen	City of Edmonton	Hamilton & Olsen Surveys Ltd.; Former Alderman, City of Edmonton.
	Marsh Dolinsky	Provincial Government	Executive Director, Research and Development, Alberta Transportation, Province of Alberta
ACUTREC Secretary	Merriene Duncan	Provincial Government	Administrator, Urban Transportation, Alberta Transportation, Province of Alberta

The Committee asked for a basic briefing on each city's socio-economic characteristics, urban form and transportation policies and plans, and to be able to ask questions on:

- jurisdictional responsibilities of the various levels of government for the financing and administration of transportation and the political ramifications of those differing responsibilities;

- level and shares of transportation funding being directed into roads, transit; levels of deficits being incurred and how recouped;

- transportation alternatives considered in planning;

- timing of transportation investments;

- type of transit equipment/systems and operational experience with the equipment;

- environmental issues;

- energy conservation; and

- political issues.

The hosting organization generally provided a kit with additional documentation to each of the Committee members which could be taken away for review at a later date.

1.3.2 Selection of Groups/Cities

It was decided that the groups in each city that the Committee should meet with would include:

- Chambers of Commerce/other Downtown Business Organizations (where relevant);
- Provincial/State Administrators;
- Politicians (primarily at the Municipal Level);
- Municipal Officials with Planning, Operating and Policy Responsibilities.

Twelve (12) cities as listed below were selected for review by the Committee. The basic criterion for selection essentially included some or all of the following:

- had or were considering implementation of rail mass transit (heavy or light rail);
- successes (or failures) in public transit had been widely publicized;
- experiencing high growth;
- had well developed roadway systems.

Three trips were arranged, primarily to facilitate easy travel, as follows:

Trip #1 - East (August 31 - September 4, 1981)

Washington, D.C. - - - - - - - - - (met with a variety of national
Toronto, Ontario organizations and with WMATA)
Boston, Mass.
Ottawa, Ontario

Trip #2 - Central (October 5 - 9, 1981)

Denver, Colorado
Atlanta, Georgia
Houston, Texas
Chicago, Illinois - - - - - - - - - Also attended opening session of APTA

Trip #3 - West (November 2 - 6, 1981)

Vancouver, B.C.
San Diego, California
Sacramento, California
San Francisco, California

Prior to leaving on the first trip, one day briefing sessions and bus tours of transportation facilities were held in Calgary and Edmonton on August 18, 1981 and August 27, 1981 respectively.

1.3.3 Debriefings

At the conclusion of each day's meetings the Committee met to prepare a written summary of the highlights of the day's discussions. The chairman of the day had the responsibility of ensuring that this activity was carried out and that the Committee members were in agreement with the summary.

At the end of each trip a debriefing session was held between the Committee, Mr. Kroeger and the Mayors of Calgary and Edmonton (Mr. Klein and Mr. Purves).

Dates and location of the sessions were as follows:

	Place	Date
Debriefing #1	Edmonton	September 11, 1981
Debriefing #2	Calgary	October 20, 1981
Debriefing #3	Edmonton	November 12, 1981

These debriefings kept the Minister and Mayors informed as to the type, scope and content of information obtained by the Committe on each trip. No conclusions were presented or discussed at the debriefing sessions.

1.3.4 Final Report

The final report presented here includes a review of the Committee's purpose and procedures, summaries of the information obtained and recommendations.

With regard to the recommendations, recommendations 1 - 4 were seen by the Committee as representing a new approach to provincial and municipal urban transportation decision-making. Therefore the Committee advises that these four recommendations should be viewed as a whole as being essential to safeguard the public interest in the provincial-municipal funding programs for urban transportation.

2.0 LOCAL TRANSPORTATION FUNDING STATUS

In 1979 the Provincial government announced a new six-year urban transportation assistance program, which contained escalation and provision for adjustment during the life of the program to accommodate inflation and growth as it occurred. Subsequently, the cities of Calgary and Edmonton reviewed the impact of the new urban transportation program. The Cities felt that the fundamental problem with the provincial six year program was that, while its funding kept pace with current inflation and growth, it did not provide a high enough level of assistance to enable the Cities to accelerate construction in anticipation of the current projected populations. In other words, the Cities were attempting to compress their earlier construction time table in preparation for higher than originally projected populations.

The cities of Edmonton and Calgary therefore presented briefs to the Provincial Government in the fall and winter of 1980/81. These briefs summarized the Cities' plans and the funding required which would enable them to advance their construction programs. The Cities' plans to advance these programs are in response to their reviews which indicate the existence of deficiencies in the existing transportation networks and the need to provide transportation capacity in anticipation of the foreseeable impact of the accelerated population growth both Cities are presently experiencing. The current provincial grant assistance program provides about one third of the funds requested in capital assistance (and substantially less in operating assistance) in their briefs.

Summaries of the Provincial six-year Program, Edmonton and Calgary Projected Transportation Expenditures and Requested Provincial Transportation Assistance by Edmonton and Calgary appear on the following pages.

2.1 PROVINCIAL PROGRAM

ORIGINALLY ANNOUNCED 6 YEAR PROGRAM
1979/1980 - 1984/1985 (in million dollars)

	Transit		Roadways		Total		GRAND*
	Capital	Operating	Capital	Operating	Capital	Operating	TOTAL
Edmonton	117.500	24.045	141.475	3.783	258.975	27.828	286.803
Calgary	117.500	25.515	154.125	4.974	271.625	30.489	302.114
All Other Cities	14.810	9.420	105.930	3.043	120.740	12.463	133.203
	249.810	58.980	401.530	11.800	651.340	70.780	722.120

* Plus monies in Transportation Systems Management (TSM), Research and Development (R & D) and Urban Signing (26.7 M) = 748.820

NOTE: Original six year program included Major Continuous Corridor Funding for only Calgary, Edmonton, Wetaskiwin and Medicine Hat. St. Albert was added in 1980. Lethbridge and Drumheller were added in the 1981 budget. By the end of the six year program (1984/1985), most of the rest of the Alberta cities will have a Corridor project. The additional corridor project funds will add approximately $250M to the original six year program total, raising it to $1B. Adjustments for inflation and growth will raise urban transportation assistance funding even higher.

2.2 EDMONTON AND CALGARY REQUIREMENTS

EDMONTON AND CALGARY PROJECTED TRANSPORTATION EXPENDITURES
1981/1982 - 1985/1986 (in millions of dollars)

	Transit		Roadways		Total	
	Capital	Operating	Capital	Operating	Capital	Operating
Edmonton	678	435	435	233	1,113	668
Calgary	606	378	705	257	1,311	635
Total	1,284	813	1,140	490	2,424	1,303

REQUESTED PROVINCIAL TRANSPORTATION ASSISTANCE BY EDMONTON AND CALGARY
1981/1982 - 1985/1986 (in millions of dollars)

	Transit		Roadways		Total	
	Capital	Operating	Capital	Operating	Capital	Operating
Edmonton	542	131	326	56	868	187
Calgary	404	124	456	5	860	129
Total	946	255	782	61	1,728	316

Note: Figures do not include:

Debenture Interest
Depreciation
Interest on City Balance
Leaseback Charges

Source: These figures are derived from the briefs submitted to the Province, and have been adjusted to make the two cities' projections consistent with regard to types of expenditures.

2.3 EXISTING AND PROPOSED LRT SYSTEMS IN ALBERTA (CALGARY AND EDMONTON)

EXISTING LRT SYSTEMS IN ALBERTA (CALGARY AND EDMONTON)

EDMONTON - NORTHEAST LRT		CALGARY -SOUTH LRT
9.2 km	Length of Line	12.5 km
6 Stations	Number of Stations	16 Stations
17 Vehicles	Number of Vehicles	27 Vehicles
50 cents (1981)	Adult Fare	65 cents (1981)
6,500,000 Passengers (estimated 1980)	Annual Ridership	10,000,000 Passengers (annualized estimated 1981)
20,000 Passengers (1981)	Daily Ridership	35-40,000 Passengers (1981)
3,000 Passengers (1981)	Peak Hour/Peak Direction	3,4000 - 4,000 Passengers (1981)
$75.0 M	Construction Cost (includes vehicles)	$175.0 M
$54.0 M	Provincial Contribution - Public Transit Capital Program	$78.0 M
$5.05 M (estimated 1980)	Operating/Maintenance Cost (excluding financial costs and feeder bus service costs)	$3.23 M (estimated June-Dec. 1981)
$2.3 M (Provincial estimate (1980)	Estimated Revenues	$2.4 M (Provincial estimate June - December 1981)

NOTE: Apparent difference in estimated revenue/cost ratios between two cities is due mainly to Calgary's higher fare.

Estimated Revenues figures calculated by Province from available information.

PROPOSED EXTENSIONS TO CALGARY & EDMONTON LRT TO 1990

EDMONTON	CALGARY
SOUTH LRT (to Gov't Center)	NORTHWEST LRT
1.6 km	9.5 km
3 Stations	9 Stations
20 Vehicles	24 Vehicles
Cost - $128.55 (includes vehicles)	Cost - $185 M - in 1981 $'s (1981 estimate)
Prov. Contribution - $102.0 M estimated to be available to 1984/85 (includes $33.0 M contribution to date)	(includes vehicles)
SOUTH LRT EXTENSION (to University + Millwoods)	NORTHEAST LRT
18.8 km	12.0 km
15 Stations	8 Stations
40 Vehicles	35 Vehicles
Cost -$413.8 M (1981 estimate does not include vehicles)	Cost - $198.0 M - $217.0 M in 1981 $'s (1981 estimate) (includes vehicles)

3.0 OBSERVATIONS

The Committee gathered a large amount of information and advice. In this section of the report a general overview is given of the urban transportation scene in the U.S. and Canada, as observed by the Committee. The overview concentrates mainly on the public transit aspects of urban transport, since this was the Committee's main objective at the outset and therefore discussions which were held with various groups and information received dealt primarily with transit.

Since a major issue for the Province is the level and type of funding support for urban transportation, the first two sections deal with the U.S. federal and state governments' and Canadian federal and provincial governments' current funding policies and programs.

A detailed comparison chart is included at the back of this report which provides specific data on each of the areas visited. This chart is placed at the back of the report because of its size. Finally, a summary of observations from the Committee's tours is presented.

3.1 REAGAN CUTBACKS

The Committee was specifically asked to enquire into the reasoning behind the cutbacks announced last year by President Reagan. In Washington, D.C., in discussions with the League of Cities, the Conference of Mayors, the Urban Mass Transit Administration (UMTA), the Department of Transportation, the American Public Transit Association (APTA), and in discussions with all transit, city and state officials across the United States, President Reagan's proposed cutbacks in transit assistance clearly dominate current considerations on transit. It is

important, however, to place President Reagan's cutbacks in transit assistance in the perspective of his overall objective of a balanced budget for the federal government.

President Reagan's Economic address to Congress, presented February 18, 1981 outlined his program for economic recovery, which included achievement of a balanced budget by 1984. Dealing specifically with transportation programs, DOT was targeted to reduce its spending by $12.6 billion over the next five years.

The Comptroller General also reported to Congress that transit operating subsidies were approaching crisis proportions, increasing from $2.5 billion in 1973 to an estimated $5.5 billion in 1979. He also recommended reconsideration of the 1974 findings that increases in fares were undesirable and suggested that Congress adopt a goal for a federal subsidy program that promotes efficient and equitable transit pricing.

President Reagan's address included action on transportation under the following general headings:

- o Recovery of allocable costs with user fees.
- o Application of sound criteria to economic subsidy programs.
- o Stretching-out and re-targeting public sector capital investment programs.
- o Consolidating categorical grant programs into block grants. (Thus eliminating unnecessary regulations and reducing overhead processing paper.)

- o Reducing Highway Safety Grant programs.

Specific cutbacks identified in transportation were as follows:

- o Elimination of inland waterways subsidies.
- o Elimination of subsidies for airports and airport users.
- o Phasing out of federal mass transit subsidies.
- o Reducing federal mass transit capital grants.
- o Reducing AMTRACK fare subsidies.
- o Reduction of funding for improvement of rail services between Washington, D.C. and Boston.
- o Elimination of federal support for low volume railroad branchlines.
- o Elimination of the Cooperative Automobile Research program.
- o Elimination of airline subsidy program for airline development.
- o Termination of funding for Conrail.
- o Reducing federal highway construction grants.

On the highway-aid side (Federal Highway Administration (FHWA)), the 1981 Carter obligation of $9.2 billion remained unchanged under Reagan's administration.

However. legislation has only recently been passed to reduce the 1982 Carter obligation of $10.5 billion to $8.5 billion in respect to Federal Aid for highways. The Federal Aid Urban Systems program (remaining urban arterial and collectors, see list on page 19) is to be eliminated in total by 1984.

On the public transit (UMTA) side, the 1981 Carter obligation of $4.9 billion was cut back to $4.6 billion. Legislation which was passed reduces the 1982 Carter obligation of $5.1 billion to $3.8 billion in respect to the federal transit capital and operating deficits. The grant program for mass transit operating subsidies is to be phased out by 1985 or sooner, which will place greater responsibility on state and local governments for level of fares and services.

Lobbying has been strong for continuation of the operating subsidy program and capital support of highways and transit at the level authorized by the Carter Administration. These representations have had little effect on the plans laid down by Reagan and, as Dr. Annelise Anderson, from the Office of Management and Budget (OMB), stated at the annual Conference of the American Association of State Highway and Transportation officials (AASHTO) on October 4th, 1981: "There is no program so sacred as to jeopardize the President's goal of a balanced federal budget by 1984."

At the same conference, Congressman James Howard, Chairman of the House of Public Works and Transportation Committee also stated that although he opposes these reductions, he could not ask for more money for highway (and transit) when everything else in the budget is being cut."

3.2 FINANCING FOR U.S.A. AND CANADA TRANSPORTATION SYSTEMS AND SERVICES

The U.S. transportation funding process is considerably different from that in Canada, largely due to heavy involvement of the federal government in the U.S.A. Another major difference is the reliance on dedicated tax sources at the local level to support transportation expenditures.

Generally speaking, the U.S. federal government provides funds to the States as assistance toward highway construction, but directly to the urban centres for assistance on transit. This direct federal-urban link on transit funding has led the urban centres to view the state governments as merely the bodies which provide enabling legislation under which they receive their dedicated local taxes.

In Canada, there is only a very small federal role in urban transportation. The provincial- municipal relationships are therefore the mechanism of support to the urban centres. Also, there is not the dedicated local tax approach in Canada that has been so widely applied in the U.S.

3.2.1 U.S.A.

Highway - Federal

Federal Highway Administration (FHWA) of the U.S. Department of Transportation (DOT) has the responsibility for administration of the Federal Aid Highway program.

Federal road assistance has existed in the U.S. since enactment of the Federal Aid Road Act in 1916. Included in the act was federal policy relative to a national highway system and delegating to the states responsibility for the construction, ownership and maintenance of highways belonging to the state.

The Highway Trust Fund was established in 1956 with the commitment to expedite completion of the Interstate Highway System. A 4¢ per gallon federal tax on motor fuel, which has been in effect at that level for the past 20 years, provides the revenues for the Federal Aid Highway program. Total federal tax on motor fuel is 12¢ per gallon. However, 8¢ of this goes into general revenue to support other government obligations. An increase of 10¢ to 14¢ in Federal Motor Fuel Tax is currently being considered. Lobbyists are asking that 2¢ of this amount be added to the Highway Trust Fund. Federal aid from the Highway Trust Fund is provided in respect to:

Federal Program	% of System Aid is Applied On
o Federal Aid Interstate System	100%
o Federal Aid Primary System (Rural arterials and urban connecting links)	98,99%
o Federal Aid Secondary System (Rural major collectors)	92%
o Federal Aid Urban System (Remaining urban arterials and collectors)	82%

Cost sharing is:

- o Interstate 90/10 for construction
  75/25 for 4R (Resurfacing, Restoration, Rehabilitation and Reconstruction)
- o All others 80/20

Remaining local rural roads and local urban streets are the total responsibility of the states and municipalities.

The total national (Federal/State/Municipal) expenditure on highways for 1980 was $36.8 billion. Federal Aid towards this amount was $9 billion.

At the present time, 94% of the Interstate System is complete. For January 1980, the estimate to complete the remaining 6% was $53.8 billion - nearly twice the amount originally estimated for completion of the entire system.

Neither state nor federal government has increased motor fuel taxes in pace with inflation and increases in fuel costs. Twenty years ago, state and federal taxes generated revenues equal to 19% and 13%, respectively, of the price of fuel. Today revenues are 5% and 3% of the price of fuel. As a consequence of successful energy conservation efforts and increased fuel efficiency of motor vehicles, gasoline consumption has declined by 4.0%. This has resulted in reduced tax revenues, since taxes are based on cents/gallon rather than being a percent of the price.

Highway travel declined in the years 1979 and 1980. During 1981 motor vehicle travel has increased by 2.5% and is expected to equal the 1978 record high of 1.5 trillion miles.

U.S.A. Highways - State

State motor fuel taxes are dedicated revenue sources for the budgets of State Highway Transportation Departments. Current tax rates vary from a low of 6.5¢/U.S. gallon on diesel (Texas, Oklahoma) and 5¢/U.S. gallon on gasoline (Texas) to a high of 14¢/U.S. gallon on diesel and gasoline (New Hampshire). Only two states have no tax on diesel; in lieu, Vermont assesses a 75% higher license plate fee for diesel engines and Wyoming assesses a 1.1 mills per ton user tax plus 1.5 mills per ton mile compensatory fee. Ten states have changed or are in the process of changing the method of imposing taxes on motor fuels from a cents per gallon tax to a percentage of wholesale or retail price basis. In addition to the regular tax rate, seven states levy a tax on the retail price of fuel.

Many states exempt or impose reduced taxes on gasohol, propane and natural gas as an incentive to convert to use of alternate fuels. California awards a state income tax credit of 55% of the cost, to a maximum of $1,000.00, on the purchase of a devise that would convert a vehicle to the use of alcohol fuel. California also exempts electric powered motor vehicles from bridge tolls, motor vehicle registration fees or the Motor Vehicles License Fee Tax.

Of the states visited, fuel tax rates as of September 1981 were as follows:

- District of Columbia
  - Gasoline - 13¢/gallon
  - Diesel - 10¢/gallon
- Massachusetts
  - Gasoline - 10% of wholesale price (currently is 11.4¢/gallon)
  - Diesel - 10% of wholesale price (currently is 11.4¢/gallon)
- Colorado
  - Gasoline - 9¢/gallon

Diesel - 9¢/gallon

- Georgia

  Gasoline - 7.5¢/gallon

  Diesel - 7.5¢/gallon

  (In addition state and city sales tax is levied on the retail price of fuel.)

- Texas

  Gasoline - 5¢/gallon

  Diesel - 6.5¢/gallon

- Illinois

  Gasoline - 7.0¢/gallon

  Diesel - 7.0¢/gallon

  (In addition, state and city sales tax is levied on the retail price of fuel.)

- California

  Gasoline - 7.0¢/gallon

  Diesel - 7.0¢/gallon

  (In addition, state and city sales tax is levied on the retail price of fuel.)

The proportion of state fuel tax deducted for transportation varies from state to state. For example, 25% of the Texas fuel tax goes to education. The balance is for the exclusive use of transportation.

State Aid to municipalities varies but in general, about 50% of the revenues generated by the transportation-dedicated portion of the fuel tax is redistributed to local governments.

U.S.A. Public Transit - Federal

The Urban Mass Transportation Administration (UMTA) of DOT has the responsibility for administration of the Federal Aid Mass Transportation program.

Introduced in 1964 and initially administered by the Department of Housing and Urban Development, the program provided $375 million over three years to enable the public sector to acquire failing transit systems from operators. In 1968, the Administration was transferred to the Department of Transportation.

In 1970, new legislation was passed adding $10 billion to the UMTA program over 12 years. In 1974 the National Mass Transportation Act created authority for Capital and Operating Assistance Formula Grants and added $7.8 billion to the program.

The 1978 Surface Transportation Assistance Act provided authority for public transportation assistance in the following categories:

FORMULA GRANTS:

- Continuance of program started by the 1974 Act - authorizing $900 million a year for fiscal years 1979 to 1982.

- Supplemental grants for capital and operating assistance authorizing $250 million a year for 1979 through 1982.
  85% going to urban centres with population greater than 750,000
  15% to urban centres with population less than 750,000.

- Grants for capital and operating purposes of commuter and fixed guideway transit projects - authorizing $115 million for 1979; $130M for 1980; $145M for 1981 and $160M for 1982.

- Grants for purchase of buses and construction of bus related facilities - authorizing $300 million for 1979, 80 & 81 and $400 million in 1982.

(During 1978, $742.4 million of foregoing funds were obligated*, 92% going towards operating assistance and 8% for capital. Federal share is 80% for capital projects and up to 50% towards operating deficits.)

CAPITAL FACILITIES GRANTS:

- o A discretionary fund available for all capital projects of extraordinary nature.

(During 1978, $8.5 billion was obligated from this fund).

INTERSTATE TRANSFER GRANTS:

- o This authority was created by the 1973 Federal Aid Highway Act which provided for State and local officials to withdraw a planned Interstate Highway segment and to use those funds for a substitute highway or transit project. The Surface Transportation Act of 1978 established September 30, 1983 as a cut-off date for making Interstate withdrawals.

- o Increased federal share from 80% for all substitute projects.

* "Obligated" is the terminology used by UMTA. It is essentially the equivalent of a provincial commitment.

U.S.A. Public Transit-State

The majority of states provide some form of public transportation aid to municipalities. However, programs vary extensively and extent of assistance is diverse. Many states provide varied percentages up to assuming all of the local share of the cost of capital projects qualifying for federal capital grants. State assistance revenues for capital are primarily generated by motor fuel taxes and sales taxes.

Of the transit systems visited, sources of public capital/operating deficit assistances for fiscal year ending June 1979 were as follows, as reported in National Urban Mass Transportation Statistics, May, 1981*.:

Washington Metropolitan Area Transit Authority (WMATA) - Washington, D.C.

Capital:	98%	Federal
	2%	Local - General Revenue
Operating:	23%	Federal
	77%	Local - General Revenue

Massachusetts Bay Transit Authority (MBTA) Boston, Massachusetts

Capital:	100%	Federal
Operating:	13%	Federal
	50%	State - General Revenue
	37%	Local - Dedicated Tax

Regional Transit District (RTD) - Denver, Colorado

Capital:	80%	Federal
	20%	Local - Dedicated Tax
Operating:	20%	Federal

* Report Number UMTA-MA-06-0107-81-1
U.S. Government Printing Office

Metropolitan Atlanta Rapid Transit Authority (MARTA) - Atlanta, Georgia

Capital:	82.5%	Federal
	17.5%	Local - Dedicated Tax
Operating:	16%	Federal
	84%	Local - Dedicated Tax

San Diego Transit Corp. - California

Capital:	80%	Federal (excluding LRT)
	20%	State - Dedicated Tax
Operating:	36%	Federal
	61.5%	State - Dedicated Tax
	2.5%	Local - Dedicated Tax

Regional Transit District (RTD) - Sacramento, California

Capital:	100%	Local - Dedicated Source
Operating:	36%	Federal
	8%	Local - General Revenue
	56%	Local - Dedicated Tax

Houston, Texas

Not Available

San Francisco Municipal Transit (MUNI) - San Francisco, California

Capital:	73%	Federal
	13%	State - Dedicated Toll
	14%	Local - General Revenue
Operating:	24%	Federal
	65%	Local - General Revenue
	11%	Local - Dedicated Tax

Bay Area Rapid Transit (BART) - California

Capital:	76%	Federal
	16%	Local - General Revenue
	8%	Local - Dedicated Source
Operating:	25%	Federal
	9%	State - Dedicated Source
	66%	Local - Dedicated Tax

Alameda-Contra Costa (AC) Transit - Oakland, California

Capital:	80%	Federal
	20%	State - Dedicated Toll
Operating:	31%	Federal
	10%	State - General Revenue
	50%	Local - Dedicated Tax
	9%	Local - Dedicated Source

Capital expenditures for public transit have long ceased to be financed from operating revenues and are now accepted as being the responsibility of federal, state and local governments.

3.2.2 CANADA

Highways - Federal

Under the British North America Act, roads are primarily a provincial and local responsibility. In the past, federal interest in highways has largely occurred in conjunction with other government objectives where highways were incidental to the accomplishment of those other objectives. Highways on federal lands such as national parks, national airports, defense establishments, Indian and Eskimo lands and the Canadian north have traditionally been the responsibility of the federal government. In all other cases, federal interest stems either from constitutional arrangements and/or federal/provincial agreements.

The federal government generates substantial revenue from motorists and the transport industry through excise and sales taxes on vehicles, motor fuel taxes and custom duties on imported vehicles and parts. Federal highway expenditures, however, account for less than 7.5% of the total spent by the three levels of government annually.

Historically, federal revenues from motorists and the transport industry have far exceeded its transportation expenditures. No parts of the revenues are specifically dedicated for development of Canada's highway transportation systems.

Highways - Provincial

Although motor fuel taxes prevail in all provinces except Alberta (which in 1922 was the first in Canada to introduce a motor fuel tax), no province dedicates any portion of such or any other kind of revenues for specific use for transportation.

Most provinces assume full responsibility for the provincial primary network systems of highways within their boundaries. Provincial aid to municipalities varies as does responsibility for the primary network extensions through major urban municipalities. All provinces, however, have programs in place to assist both urban and rural municipalities with financing of their local systems.

Sources of revenue for municipal road budgets are program funds and/or transfer payments available from provincial governments with the balance being made up from property taxes which are collected by the municipalities.

Public Transit - Federal

Transport Canada has the responsibility of administering the federal Urban Transportation Assistance Program (UTAP). Established in 1978 with a budget of $230 million spread over six years, the program as announced was to provide capital assistance for public transit and improved safety at railway crossings by construction of as grade separations. Provincial entitlements were based on population at the time of inception of the program.

Entitlements under this program have in most instances been totally directed to construction of railway grade separations in urban and rural municipalities of provinces. Some assistance for capital equipment has been channelized to transit

systems in the Atlantic Provinces, Manitoba and the Yukon. $1.2 million of federal program funds was made available to Cornerbrook, Newfoundland (population 40,000), for the purchase of six 35 seat buses, construction of a maintenance/storage garage and a central transit terminal/shelter, to inaugurate the first public transit services in that community.

Out of Quebec's entitlement, $30 million is being directed to rehabilitation of the Montreal Commuter systems.

Funding for grade separations under the Railway Relocation and Crossing Act (RRCA) was replaced by UTAP program funding at the time the UTAP program was introduced in 1978. The UTAP program terminates in 1984 and there has been no announcement of Federal Aid for public transportation being continued for the future.

Public Transit - Provincial

Provincial governments' involvement in public transportation in Canada started in the late 1960's and early 1970's and has expanded and become increasingly significant in the past half dozen years. Ontario has been the leader in this area. They have assumed full responsibility for public commuter transportation in the Toronto area (GO Transit provides commuter rail and bus services from outlying areas under the auspices of the Toronto Area Transit Operating Authority (TATOA), which is a Crown Corporation). Ontario has also increased provincial assistance to municipalities as a percentage of municipal transportation assistance (from 11% in 1971 to 35% in 1981). Of Ontario's Ministry of Transportation and Communications (MTC) 1981 budget of $1.3 billion, 32% went to municipalities for roads assistance, 10% for municipal transit assistance, 7% for provincial public transportation (GO Transit) and the balance for construction, maintenance and operation of the provincial highway systems.

Most provinces have made a real commitment towards public transportation. Programs, however, are varied, with each province responding in slightly different ways to meet local situations. Provincial assistance for capital expenses range from 50% to 75% of costs of approved purchases. Alberta provides scheduled grants without a requirement for matching funds.

Provincial operating subsidy support programs often benefit from observing prior experiences of other provinces. Alberta, Newfoundland and Nova Scotia provide a maximum per capita grant which can be applied against the operating deficit (Alberta's grant is unconditional, Newfoundland's and Nova Scotia's must be applied against transit operations). Manitoba and the Yukon provide a fixed percentage of the operating deficit. Ontario and British Columbia pay percentage operating subsidies based on a theoretical deficit and which can vary according to city size and/or maturity of the system. Saskatchewan is the only province which has a fixed operating subsidy per revenue passenger. Quebec has a unique system which includes a payment against both revenue and fare reductions for specific markets.

British Columbia is the only province that purchases all capital goods, vehicles and major transit facilities, then leases them back to local operators. The lease costs are treated as operating expenses.

3.4 SUMMARY OF OBSERVATIONS AND CONCLUSIONS

Urban transportation problems and issues vary extensively from city to city and Edmonton and Calgary are not exceptions to these variances. The uniqueness of the problems and issues makes it impractical to apply successes or failures from one area to another with the objective of achieving the desired results. However, understanding why successes and failures occur should greatly assist the decision making process with regard to urban transportation.

Transit Funding

In discussions with various transportation agencies in the U.S., whether city, state or federal, they stated that their main problem with respect to urban transportation is funding. Rising costs of transportation facilities and services along with a reduction in tax dollars and reduced federal government spending are the main contributors to the funding problem.

Funding for transportation in U.S. cities is derived largely through various forms of taxation on motor vehicle fuels. Due to increasing efficiency of motor vehicle engines, rising fuel costs and reduced amount of travel, there has been a decline in total fuel consumption and a corresponding reduction in tax revenue from the sale of fuel. Also, fuel taxes have, until recently, been calculated as cents per gallon rather than a percent of value. Therefore there are less funds for urban transportation.

Deficit financing has become the number one economic problem in the U.S. and the Reagan Administration is committed to control the deficit with the goal of achieving a balanced budget by 1984. The economic recovery program calls for across-the-board cuts in federal spending with a resulting 26% reduction in subsidies on public transit for fiscal year 1982. The program first calls for a complete phasing out of federal operating subsidies by 1985. Additionally, there will be no federal funds available for starts on new rail transit projects. Previously, the federal assistance through the Urban Mass Transit Administration (UMTA) provided approximately 80% of capital costs for approved projects.

On the Canadian scene, funding for public transit varies considerably from province to province. The grants program in Ontario, which includes capital and operating assistance, appeared to be working quite successfully. The provincial government of Ontario plays a supportive role in working with the cities of Ontario. Capital assistance is developed on the basis of need and available funds and details of any major project are worked out together. For example the new Scarborough rail-transit line is the subject of an agreement by which the Metropolitan Toronto Council and the Province are jointly committed to the extension of rail transit to a new town centre. The objective is to help to develop the urban form in a more desirable way, and the Council and the Province have both made various types of commitments in support of the new line. Land use for example, is to be carefully controlled, and provincial operating assistance is scaled to provide additional support in the early years when the line will be underutilized. Transit operating subsidies are tied to performance.

Public transit in the Toronto area is managed by the Toronto Transit Commission (TTC) and given area-wide coordination by the Toronto Area Transit Operating Authority (TATOA). The TTC has carried out public awareness programs which have assisted in creating an understanding of the need for fare increases and other difficult decisions in transit. TATOA runs the GO transit commuter system, which is playing an expanding role in commuter travel to downtown Toronto.

Transit Technology

The Cities of Toronto, Chicago, Boston, Washington, and the San Francisco Bay Area (BART) have established heavy rail (high capacity rail transit) systems in operation. Atlanta has recently completed the first leg of its heavy rail system and has plans for further extensions if funds can be obtained. Houston is in the process of carrying out studies with respect to a heavy rail line (similar to Atlanta's) which will run west from the downtown to serve a high density office and commercial corridor.

Of the cities visited, San Diego, San Francisco, Boston and Chicago, operate light rail transit systems. Toronto, Vancouver, Denver, and Sacramento are planning to implement light rail systems. The light rail transit systems have less capacity, and are considerably less expensive to build, than a heavy rail system. An at-grade LRT line generally costs in the range of 1/6 to 1/10 of the cost of a heavy rail grade-separated line.

The San Diego LRT system, which was completed in 1981, was the lowest capital cost system of all systems visited and likely is the lowest capital cost system in the U.S. Nearly all of the line was constructed at-grade on existing rail and rail right-of-way, at a cost of $118M for 15.9 miles, which includes the cost of additional double tracking currently being undertaken, vehicles and debt servicing charges, as well as the original construction costs. It was constructed without federal funds.

The Ottawa-Carleton metropolitan area, with a population of 486,000 and a larger regional population of 700,000, has an all bus system utilizing a network of exclusive bus lanes and bus-ways. A 5-leg LRT system was planned; however, because of the high costs and slow-down in population growth in the region, a bus system was selected. It is reported that the bus system is performing very satisfactorily and they are experiencing a very high ridership (152 rides per capita per year) and a 60% recovery of operating costs through the farebox. The bus-ways, which have a projected capacity of 12,000 pph per direction on 180 buses, are presently carrying 5000 pph per direction. They are being constructed such that they can be staged to LRT if required in the future.

Transit Operating Costs

The subject of transit operating costs is a universal concern. Operating costs and transit deficits have been increasing at an alarming rate and are difficult for elected officials to control. In numerous U.S. cities transit agencies have been experiencing serious financial problems, and with the reduction in federal operating subsidies the fiscal crises have severely worsened. There are a number of factors which contribute to increasing costs of operating public transit services.

Without exception in the cities we visited, public transit is viewed as providing a social service comparable to police or fire protection. Consequently it is not expected to recover its total cost from the user. Even the TTC, which has a farebox return of 74.5% of operating cost, experienced an increase in deficit of 103% during the last 5 years. High capital investments in rail systems have not always resulted in reduced operating costs, and in a number of cities the reverse has been true. One of the main dilemmas of the situation is that while transit provides the necessary social service for a small percentage of transit riders, the largest subsidies are enjoyed by those least in need.

Approximately 80% of operating costs are labour oriented. In several U.S. cities, such as Boston, Chicago, and Sacramento, labour unions are very strong and have been very successful in negotiations with transit management. Productivity has been declining and is at an all time low in Boston. Absenteeism on U.S. transit systems due to injury increased by 149 percent between 1974 and 1978 and unscheduled absenteeism averages nearly 6 weeks per year per employee.

The current economic climate in the U.S. and the increasing costs of operating transit systems have precipitated the withdrawal of federal transit subsidies. Many cities are examining methods of increasing the return on operating cost through the farebox, either through fare-increases or reduction in service or both. There appears to be greater public acceptance in the U.S. of the trend toward "user-pay" policies. It should be noted that farebox recovery ratios in the U.S. are now generally lower than in Canada.

Timing

Rail transit systems in the cities visited were developed over a number of years with the exception of San Diego, where their surface LRT line was completed in two years. Toronto, which is considered by many experts to be one of the most successful public transit systems in terms of ridership, quality of service, and operating cost recovery, commenced operation of the 4.5 miles of the Yonge Street line in 1954. The next extension to Queen's Park was completed nine years later, followed by the development of other segments as the demand grew and funds became available. TTC officials stated that they strongly supported a program of development which enables them to maintain a good base of contractors and engineers thus effecting a great deal of economy into the system. A senior official from the planning department added, however, that the incremental approach keeps a municipality from building where there is too little demand.

The Washington heavy rail system, started as a 10 year $2.5 billion project, has now been extended to 25 years with a cost of $8.5 billion. Atlanta's plan is essentially a staged sequence of development pending availability of funding. The BART system in San Francisco was perhaps the fastest development of a major heavy rail system. The 71.5 mile system was completed in 1972, taking 9 years to construct at a cost of $1.6 billion.

History of U.S. National Policy on Accessibility

In 1972 the Rehabilitation Act became legislation, calling for provision of full accessibility to all handicapped persons in centres with populations over 50,000. It is generally considered in the U.S. to have created a bureaucratic, financial and technical nightmare.

In 1976 the American Public Transit Association (APTA) asked that Section 504 of the Rehabilitation Act be suspended to allow the method of accessibility to be determined locally.

In 1980, the U.S Senate voted 79 - 15 to amend Section 504 so that:

(a) accessibility becomes a local responsibility

(b) 5% of all capital funding for transportation be spent on transportation for handicapped, to give:

1. comparable fares
2. adequate service
3. reasonable minimum waiting period for trips
4. no restrictions on the purpose of the trip
5. no prior registration or approval for persons using the system.

ACUTREC noted that in San Diego (where LRT cars are fitted with wheelchair lifts) all of these lifts, while in place, were non-operative (due to technical imperfections) and there did not appear to be much urgency or optimism in getting the lifts to work. In Boston it was noted that they, too, were having difficulty implementing accessibility techniques.

Roadways

While certain comparisons have been made between U.S. and Canadian cities in the area of public transit, the matter of roadways should not be overlooked. In the U.S. the Federal Aid Highway program, instituted in 1954, has facilitated the development of a national network of major roadways including connecting links

through and around urban areas. Because this program has been in place for a number of years, the cities have developed and have in place a roadway infrastructure which is far superior to roadways in our two major cities. While some funds are being diverted from the federal interstate program to public transit, the rate of expenditure on urban roadways in the areas visited, typically exceeds expenditure on public transit by about two to one. Houston and Denver, are examples of cities that have grown rapidly for many years and have relied totally on roadways and bus transit. Houston is presently undertaking the construction of a third circumferential route (ring road), and it has a series of penetrator routes into the downtown. The cities of Denver and Houston have strong similarities to our cities from a geographical, industrial, and growth point of view.

The question of differences in energy consumption by different modes of transport was discussed with several agencies. Information received tended to be conflicting. The State of California, by state law, is required to prepare a summary of energy impacts for any urban transportation facility, whether roads or public transit. They report that in analysing transportation alternatives, energy consumption differences are a minor consideration. Funding for capital and operating are the major problems.

Conclusions

Well planned and properly implemented and operated transportation facilities contribute to the quality of life, economic development, social and environmental objectives of urban areas. In the planning process optimum use must be made of public transit and roadways, and wherever feasible the two modes must be complementary. Ideally, rail transit should be developed to serve existing or future high density corridors, while major roadways should not be planned through existing development. The Alberta Provincial Government and the two cities should work closely in the development of transportation plans for the metropolitan areas which are responsive to transportation needs and which promote each of the city's economic, social, environmental and urban development goals.

As in most of the cities visited which have a high density central core, greater use of public transit will be required in both Calgary and Edmonton to meet the projected travel demand to the Central core. For Edmonton and Calgary the utilization of light rail transit as the rail technology, complemented by an efficient bus system appears to be consistent with plans of other areas to achieve the required transit ridership into the downtown area. A number of Western U.S. cities are planning relatively inexpensive at-grade rail systems, while optimizing of bus transit is common throughout all cities. Decisions on capital investment in transit must be made with full regard to operating and maintenance costs and the public should be advised and if possible be involved in the decision making process.

Cost effectiveness of transportation improvements must be examined closely in terms of present and future requirements. Similarly the long term tax liabilities must be looked at, especially with respect to operating and maintenance costs and rehabilitation costs, which are generally borne by a different generation of elected officials than those who seek grants for implementation of various facilities. It is

of paramount importance that there be genuine local commitment and cost-consciousness built into cost sharing schemes between our two levels of government. The experience in the U.S. has shown that the capital assistance program has encouraged gold-plating of rail transit systems, while the operating subsidies, coupled with their labour regulations, led to as yet unresolved complications with unions and decreased productivity. Cost control of public transit and productivity must originate through local political decisions, good transit management and fair labour negotiations.

4.0 RECOMMENDATIONS

There are a total of 11 recommendations, dealing with funding, commitments, planning, jurisdiction, and accountability. The Committee was very concerned about the accountability issue, particularly because of the magnitude of the construction and funding issues.

Therefore the Committee advises most strongly that Recommendations 1-4 be considered to be a package so that planning and funding commitments at both the provincial and municipal levels encourage a high degree of efficiency, cost consciousness and accountability in the provision of urban transportation facilities and services.

1) Recommend: That the Province make an immediate increased long-term funding commitment to continued development of LRT in the cities of Edmonton and Calgary, contingent upon the adoption of the updated and agreed to five-year plans of the Cities (see Recommendation 2); and,

2) Recommend: Each year, the cities' five year transportation plans should be updated and agreed upon by both the municipalities and the Province. City and provincial capital transportation funding programs would be based on these agreed on five year plans. The level, staging, and cost-sharing ratios should be jointly determined by the Province and the municipalities concerned. A given municipality's level of funding would be related to its needs; and,

3) Recommend: That the Province recognize Edmonton's and Calgary's current long range Transportation plans including the LRT component and its logical development in accordance with the projected growth for the two areas. The roadways and the LRT system should be non-competing; and,

4) In recognition of the fact that, in every case we studied, the deficit for transit is increasing at an alarming rate,

Recommend: That the municipalities direct their attention to accountability in service levels and fare returns expected in their transit systems.

And that the public, the Province and the municipalities work in concert on the following:

a) That public transit be recognized as having a significant social service component, rather than being purely a transportation service.

b) That a basic transit plan which breaks even on operating costs should be established for transit services. Additional transit services required as a social service should be added as a specific cost.

c) That the municipal governments inform their respective electorates of future plans and existing transportation problems.

d) That a definite level should be established for farebox recovery. Provincial operating assistance should be designed to encourage efficiency and accountability, e.g. the Province would provide for, on a grant basis, up to 50%

of the farebox revenues as an incentive to maintain reasonable fare levels and increase ridership. Any shortfall then created should be borne by the city and any surplus retained by the city. If the cities demonstrate increased efficiencies in the operation of their systems this grant could be increased as a suitable reward.

e) Transit systems are required to include an aggressive marketing program in their five-year plans.

5) Recommend: That a level of funding for the LRT systems be established which would reflect an agreed-to basic standard. If the cities choose to build systems to a higher standard, then they would pay the cost differences.

6) Recommend: That the Province work in concert with local governments toward local goals and objectives; that, so far as is possible, provincial and local goals and objectives be made compatible; that province-wide growth policies be implemented in such a way as to minimize the net cost to the municipalities affected; that provincial and municipal transportation plans be designed to support the agreed on goals and objectives.

7) Recommend: That public policy be altered so that urban sprawl will be reduced in order to lower the cost of providing transportation and other infrastructure requirements of municipalities. Specifically, that transportation planning and implementation should be based on effective land use planning and controls.

8) Recommend: That the two levels of government work together closely, with a minimum of intergovernmental boards and agencies, to avoid unnecessary duplication of effort, higher costs and poorer service.

9) Recommend: That enabling legislation for municipalities be provided to allow implementation of indexed financial measures, such as expanded property tax base, local and/or regional supplementary vehicle license, local and/or regional sales/excise tax, payroll tax, value capture tax, special transit tax, local and/or regional utility tax, etc. to enable municipalities to pay for capital costs and operating deficits of transportation facilities.

10) Recommend: That the Provincial Planning Act be amended to allow for increased assessments for transportation purposes against developing areas and/or developments.

11) Recommend: Specifically for roadways:

(A) That adequate capital funds be made available to allow the development and construction of adequate ring roads (by-passes, beltways, circumferential routes).

(B) That a list of "special projects" be identified, such as:
Corridors, e.g. Deerfoot Trail,
Ring Roads
Cross town routes, etc.

and agreed to by the Province and Cities with special funding policy incentives to allow for the timely and orderly completion of these projects.

(C) That a major emphasis be placed upon transportation management techniques that will allow and ensure the maximum utilization of the existing roadway network.

(D) That adequate funding be made available to ensure that the entire urban roadway network is properly maintained and, when necessary, rehabilitated.

ACUTREC—COMPARISON OF CITIES VISITED

	WASHINGTON	BOSTON	TORONTO	OTTAWA	DENVER	ATLANTA
URBAN FORM	• 3.. MILLION POPULATION IN WASHINGTON, D.C., MARYLAND CAPITAL OF U.S.A.	• STABLE METRO POPULATION AT 2 1/2 MILLION, POPULATION IS DECLINING IN THE CITY • HIGH DOWNTOWN DENSITY 569,000 IN 35 SQ. MILES • POPULATION DOUBLES IN THE DAYTIME FROM 1/2 MILLION TO 1 MILLION • SPECIAL PLANNING TECHNIQUE DUE TO AGE OF CITY	• METRO AREA - 240 SQ MILES • 2.1 MILLION POPULATION • CBD EMPLOYMENT - 170 THOUSAND • POPULATION GROWTH PROJECTION TO 2001, 35 THOUSAND A YEAR. • HIGH RESIDENTIAL COMMERCIAL DENSITY IN METROPOL. CENTRES. • MODAL SPLIT TO TRANSIT SERVICE AREA - 25% ALL DAY 57% IN PEAK PERIOD • TRANSIT FARE ADULT - 45¢ STUDENT - 30¢ CHILDREN - 25¢	• 450,000 + 2ND ORD IN REGION + 190,000 IN HULL • 70,000 JOBS IN C.B.D. (30% FEDERAL). ETHIER PLAN IS AT 30 YEARS POPULATION OF 850,000). • MODAL SPLIT TO TRANSIT CITY WIDE: 24% DAILY ALL TRIPS • C.B.D. 65% WORK TRIPS TO C.B.D. ALL DAY 65% OF ALL WORK DAY TRIPS TO C.B.D. • TRANSIT FARE ADULT-40¢ SR. CITIZENS, STUDENTS, CHILDREN -30¢	• 1.1 MILLION POPULATION 1/6th OF STATE POPULATION OF 2.4 MILLION. • EXPECTED TO 2.5 MILLION BY 2,000. • C.B.D. EMPLOYMENT - 93,000, EXPECT 150,000 BY YEAR 2,000. • AIR POLLUTION SERIOUS. TRANSIT FARES: DENVER LOCAL PEAK 7¢ LOCAL OFF-PEAK 5¢ AREA CALCULATIONS 35¢ EXPRESS 1.0¢ REGIONAL 1.75 BOULDER CITY PEAK 50¢ OFF-PEAK 35¢	• PLAN FOR POPULATION OF 3qm BY THE YEAR 2,000. • 60% DOWNTOWN POPULATION BLACK. 30% SUBURB. • ATLANTA HAS A THE POPULATION OF THE 7 COUNTRY REGIONAL AREAS SERVED BY MARTA (METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY
TRANSPORTATION POLICY	• 10 YEAR PROJECT - STARTED 1969 (NOW A 25 YEAR PROJECT FOR 98 MILES - HEAVY RAIL SYSTEM.	• MAYOR PROVIDED 14 YEARS OF CONSISTENT POLICY TO SCRAP HIGHWAYS AND GO WITH TRANSIT. • PARKING FREEZE BEGAN IN 1972 - 55,000 PARKING STALLS AT LIMIT. • EMPHASIS ON PARA TRANSIT I.E. INCREASED TAXI-STANDS.	• ONGOING PROGRAM OF DESIGN AND CONSTRUCTION	• CARRY 270,000 PEOPLE PER DAY. • TO OPERATE A BUS 4 MILE FROM EACH HOME. • NEARLY ACHIEVING 60% FROM FAREBOX. • ROAD VS. TRANSIT EXPENDITURES ABOUT 50/50. • COUNCIL POLICY - PRESIDENCE TO RAPID TRANSIT OVER ROADS. • IMPROVED SERVICES • BUS PRIORITIES • FLEXIBLE HOURS • PARKING CLAUSES • TRANSIT WAY IMPLEMENTATION. • PEOPLE WHO OPERATE TRANSIT SYSTEM DIRECTLY INVOLVED IN THE PLANNING POLICY TO OPERATE A BUS 1/4 MILE FROM EACH HOME • ALL PERMANENT STRUCTURES TO BE BUILT TO ACCOMMODATE LRT IN THE FUTURE • ROAD MAINTAINING PROGRAM IS A PRIORITY AS COSTS GO UP WITH ADVANCED DETERMINATION	• LONG TIME MAYOR & CITY ENGINEER - BOTH MAINTAIN THERE SHOULD BE NO LEGISLATION AGAINST DOWNTOWN PARKING. • A NUMBER OF PRIVATE PARKING GARAGES IN DOWNTOWN PERIPHERY. • PREFER TO SELL LRT AS ATTRACTIVE ALTERNATIVE • BELIEVE REFERENDUM WILL GET MAJORITY VOTE. • SANTE FE CORRIDOR THE CITY OF DENVER HAS PLANS TO DEVELOP A MULTI MODAL CORRIDOR CALLED THE SANTA-FE CONRIDOR. THIS CONRIDOR WILL BE 5.5 MILES LONG AND WILL COST $100M. IT WILL HAVE HIGH OCCUPANCY VEHICLE TO BUS LANES AND IS TO BE COMPLETED OVER THE NEXT 5-10 YEARS. PROVISION IS BEING MADE FOR FUTURE LRT IN THE STRUCTURES. STATE HIGHWAY DEPT. AND CITY JOINTLY STRIVE FOR BALANCED TRANSPORTATION SYSTEM IN TERMS OF FUNDING OPPORTUNITIES.	• STATE IS PRO AUTOMOBILE. CITY IS PRO TRANSIT. CITY HAS STOPPED BUILDING EXPRESSWAYS TO SUPPORT TRANSIT. POPULATION IS DECREASING IN CITY AND INCREASING IN THE SUBURBS. BUILDING EXPRESSWAYS CAUSES INDUSTRY TO RELOCATE IN SUBWAYS. • ARE INVESTING 3 BILLION IN HIGHWAYS. 450 MILLION UNDERWAY, 600 MILLION OVER 6-7 YEARS. • MARTA SYSTEM IS NOT COMPLETE. 13 MILE E/W LINE IS FINISHED. N/S LINE STILL UNDER CONSTRUCTION. • REFERENDUM APPROVED A TOTAL OF 53 MILES, BUT NO GUARANTEE OF FEDERAL FUNDS. THEIR RECOMMENDATION DO NOT BUILD A PARTIAL SYSTEM. 30% OF THE PEOPLE LEFT THEIR AUTOS TO RIDE THE RAIL SYSTEM. • PEOPLE WHO WOULD NOT NORMALLY RIDE A BUS ARE USING THE RAIL SYSTEM. • LAND VALUES HAVE INCREASED ALONG THE MARTA. • 46% OF NEW CONSTRUCTION ALONG THE DOWNTOWN IS ADJACENT TO THE MARTA OR ON TOP OF STATION. • THEY PLAN TO CONTROL LAND USE ADJACENT TO THE MARTA STATIONS.
TRANSPORTATION SYSTEM	• 38 MILES HEAVY RAIL (UNDERPOINT, AT GRADE AND ELEVATED). • RIDERSHIP TOTAL 270 MILLION PER YEAR ON RAIL AND BUS (10¢ MILLION LESS THAN TORONTO).	• 90 MILES OF RAPID TRANSIT LINES FOR 7% COMMUTTIES. • 3 SEPARATE SYSTEMS FOR 3 DIFFERENT TYPES OF EQUIPMENT. (J. O'LEARY MBTA RECOMMENDED THAT A CONSISTENCY IN EQUIPMENT AND SYSTEMS WITH A HIGH DEGREE OF COMPATIBILITY WOULD MAKE THE SYSTEM MORE FLEXIBLE AND EFFICIENT) • 500,000 DAILY RIDERSHIP.	• 1200 BUSES, 251 TROLLEY BUSES, 196 LIGHT RAIL VEHICLES, 126 HEAVY RAIL VEHICLES • SCARBOROUGH EXTENSION, AN INTERMEDIATE CAPACITY L.R.T., OPEN 1984, COST - 130M - 6.5 MILES 20,000 PER HOUR. • RAIL SYSTEM DEPENDANT ON FEEDER BUSES. • TOTAL RIDERSHIP 366M/YEAR. 75% BY TRANSIT C.B.D. IN PEAK HOUR. SINCE 1976 RIDERSHIP INCREASED BY APPROX. 11%.	• REGIONAL PLAN: 5 LEG SYSTEM TO SERVE 1,000,000 WITH A COMPLETION DATE IN 25 YEARS. • 1977 BUS SYSTEM (EXCLUDING ROLLING STOCK) WAS DETERMINED TO BE 30% CHEAPER AND MORE FLEXIBLE. DECISION THEN WAS THAT DUE TO LACK OF ECONOMIC GROWTH, COMMUNITIES COULDN'T AFFORD RAIL. FLEX TIME VERY SUCCESSFULLY FLATTENED PEAK RIDERSHIP. • EXCLUSIVE BUSWAY CAN EXTEND 12,000 PER HOUR. • 759 BUSES • EXCLUSIVE BUSWAY CAN HANDLE 12,000 PEOPLE PER HOUR. (ARE MOVING 5,999 PER HOUR & CAN UTILIZE 190 BUSES PER HOUR • TRANSIT RIDERSHIP ANNUAL: 74,299,000 ANNUAL RIDES/CAPITA: 152 DAILY RIDERSHIP: 270,000	• APPROX. 150 MILES OF STATE HIGHWAY & 80 INTERSTATE HIGHWAY. • 250 MILLION OF INTERSTATE FUNDS WERE TRANSFERRED TO THE CITY OF DENVER. 232M WENT TO MAJOR ROADWAYS 18M TO TRANSIT. • 1983 WILL ACQUIRE A NEW FLEET OF ARTICULATED BUSES. • 90% OF COST OF NUMEROUS PARK'N' RIDE LOTS FUNDED BY FEDERAL GOVERNMENT. • AVERAGE SITE IS AROUND 300 STALLS. • CITY OF DENVER HAS SPLIT OF 30% OF CBD & ONLY 3-4% IN THE REGION WISH TO DOUBLE RIDERSHIP FROM 1977 TO 1982. • 671 BUSES • APPROX. 150 MILES OF STATE HIGHWAY & 80 INTERSTATE HIGHWAY • NEW FLEET OF ARTICULATED BUSES ACQUIRED IN 1981 • HAVE 9 # OF PARK-AND-RIDE LOTS • AVERAGE SIZE IS AROUND 300 STALLS • TRANSIT RIDERSHIP ANNUAL 42,750,000 DAILY 130,000 • RIDERSHIP EXPECTED BY 1985 - 49,000 PPD • CITY OF DENVER HAS SPLIT OF 30% TO CBD, & ONLY 3-4% IN THE REGION. WISH TO DOUBLE RIDERSHIP IN PERIOD FROM 1977 TO 1982.	• OPERATE G.M., GRUMAN AND ARTICULATED BUSES • MOVING TO ARTICULATED BUSES $250,000 EACH. RIDERSHIP 65,000 PER DAY ON 33 MILES OF SYSTEM. • 30% OF THE 65,000 IS ATTRIBUTED TO CHANGE OVER FROM USE OF AUTOMOBILE TO RIDE RAIL • BUS SYSTEM NOW OVER 7 COUNTIES. THEY PLAN 32 MILES OF NEW FREEWAYS AND A 101 MILE RAIL SYSTEM.
FUNDING & POLITICAL STRUCTURE	• METRO-WASHINGTON TRANSPORTATION AUTHORITY (MWTA). • 8.5 BILLION 1994. • CURRENT OPERATING DEFICIT 150 MILLION - 50% RECOVERY FROM FARE-BOX DUE TO DRAMATIC ESCALATION OF LAND VALUE AROUND METRO - ESTIMATE ADDITIONAL PROPERTY TAX REVENUE OF 50 MILLION A YEAR.	• MAIN FUNDING FROM PROPERTY TAX ONLY • OTHER REVENUE IS FROM CIGARETTE TAX • 35M MILLION TO OPERATE CITY 25% CUT IN BUDGET • CURRENT OPERATING BUDGET 337 MILLION PER YEAR-RECENT FARE INCREASE WILL PROVIDE 3M MILLION PER YEAR • SALES TAX DEDICATED TO TRANSIT • 9% FEDERAL FUNDED • RECENT FARE INCREASE & CUTBACK RESULTED IN DROP OF RIDERSHIP 25¢ - 75¢ RAIL 25¢ - 50¢ BUSES • IN CITY, MAYOR MAIN PERSON NO COMMISSIONERS, DEPARTMENT HEADS REPORT DIRECTLY TO THE MAYOR • MAYOR DOES THE BUDGET, COUNCIL CAN ONLY REDUCE THE BUDGET • STATE HAS MOST AUTHORITY 7-MEMBER UMTA BOARD	• PROVINCIAL ROLE TO ADVISE ASSIST, INFLUENCE, CO-ORDINATE • PROGRAM COMPONENTS • OPERATION-50% on DEFICIT ABOVE TARGET -PLUS 25% OF DEFICIT BELOW TARGET • SURFACE CAPITAL - 75% MOST ITEMS • RAPID TRANSIT - 75% • TRANSPORTATION FOR DISABLED-50% CAPITAL & OPERATING • DEVELOPMENT/DEMONSTRATION - UP TO 10% • STUDY ASSISTANCE - 75%	• R.M.O.C. (REGIONAL METRO OTTAWA CARLETON) ENACTED IN 1969. • 1973 TRANSIT CAME UNDER R.M.O.C. CITY COUNCIL DETERMINES THE REQUIREMENTS OF THE BUS WAY SYSTEM IN A FORMAL PLANNING DOCUMENT IN LIAISON WITH THE REGIONAL COUNCIL AND THEN ONCE IT IS APPROVED, BOTH PARTIES STICK TO IT. • $6 MILLION 10M PER YEAR OF SERVICE • AVERAGE TAX ON HOURS WAS ABOUT $1370 • TOTAL BUDGET IS 22% ON TRANSPORT & GOVERNMENT OUT OF TAX DOLLAR • 33¢ OF TAX DOLLAR IS FOR TRANSPORT. • ROAD SYSTEM WILL NOT DETERIORATE PROVINCE GIVES 60% SUBSIDY • TRAFFIC SUBSIDY: PROPER MANAGEMENT OF TRAFFIC COULD SAVE 6 MILLION GALLONS OF FUEL 75% SUBSIDY PROVIDED BY THE PROVINCE FOR COMPUTER & RELATED SOFTWARE 50% SUPSIDY PROVIDED BY THE PROVINCE FOR TRAFFIC LIGHT (NON-POLITICAL) TRANSIT WAY PROJECT: 75% SUPSIDY PROVIDED BY THE PROVINCE FOR COST OF 20-30 K OF SPECIFIC ROADWAYS (12% M)	• SAME PAYOR IN CITY FOR 15 YEARS • CITY IN CONJUNCTION WITH STATE HIGHWAY DEPARTMENT IS INVOLVED IN TRANSPORTATION PLANNING. ARE STRIVING FOR BALANCED TRANSPORTATION SYSTEM IN TERMS OF FUNDING OPPORTUNITIES • FUEL EFFICIENCY INCREASING BY 6% PER YEAR • 2% NET REDUCTION IN FUEL CONSUMPTION • TOTAL HIGHWAY BUDGET FOR OPERATIONS & CAPITAL IS 399M • $370 M/A'S • $129 CAPITAL • 29M STATE PATROL • FEDERAL TAX REDUCTION COULD PROVIDE OPENING FOR INCREASE IN LOCAL TAX • CITY OF DENVER COLLECTS 8¢ PER EMPLOYEE $2. FROM EMPLOYEE $2. FROM EMPLOYER • TOTAL OF $250 M CK INTERSTATE FUNDS WERE TRANSFERRED TO THE CITY OF DENVER $232 MILLION WENT TO MAJOR ROADWAYS $18 MILLION TO TRANSIT • 9% 4; COST BY FEDERAL FUNDS	• ELECTED COMMISSIONER - IS DIRECTLY INVOLVED IN SPECIFIC PROJECTS • CITY-COUNTY CONTRACT PROGRAMS TOGETHER • CITY MUST CONTRIBUTE FINANCING (2/3 STATE, 1/3 CITY) • CAR TAX YIELDS $2-300M YEARLY • 3 COUNTIES THROUGH REFERENDUM GIVES 1% SALES TAX TO MARTA (50% USED FOR OPERATING) • 10M SQ. FEET OF OFFICE CONSTRUCTION UNDERWAY • PROPOSED CONNECTION OF AIRPORT BY MARTA WILL GIVE 17 MINUTE SERVICE TO DOWNTOWN • ARE INVESTING 1 BILLION INTO ROADWAYS, 400 MILLION UNDERWAY, 600 MILLION TO COME OVER 6-7 YEARS • REDEVELOPMENT OF INNER CORE • PLANNED EXPANSION TO 750,000 SQ. FEET OF CONVENTION HALL WILL PROVIDE 3100 ADD. JOBS • CONSCIOUS MOVE TO DEVELOP HOUSING IN INNER CORE • LARGE GROUP OF UNEMPLOYED PEOPLE LIVING IN INNER CORE ALTON BOND • PRODUCED FUNCTIONAL PLAN FOR TRANSPORT - UPDATED ANNUALLY - ENCOMPASSES 6 COUNTIES - PLAN 101 MILE RAIL SYSTEM - PLAN 32 MILES OF NEW FREEWAYS • 2 COUNTIES THROUGH REFERENDUM GIVE 1% SALES TAX TO MARTA (50% USED FOR OPERATING). • STATE IS RESPONSIBLE FOR ASSESSING NEED AND LOCAL PROGRAMS FORMULATED BY THE CITY AND COUNTY (CITY CONTRIBUTES 2/3 STATE, 1/3 CITY).
EVALUATION CRITERIA & ALTERNATIVES	MAIN PROBLEM WITH LABOR--USED AS A BARGAINING TOOL.	• VERY LOOSE PLANNING MAJOR PROBLEMS: FUNDING (OPERATING COSTS) • WEAKNESS OF MANAGEMENT (LARGE NEGATIVE WITH 39 (STATUS) • A RECOMMENDATION FROM J. O'LEARY THAT YOUR OPERATING GRANTS MUST BE BASED ON A TAX BASE THAT IS INCREASING WITH THE ECONOMY AND THE TAX MUST BE A TRANSIT TAX.				ALTERNATIVE STUDIED WERE (A) DO NOTHING (B) BUS SYSTEM (C) BUS/RAIL MIX BUS RAIL MIX WAS CHOSEN. RECOMMEND TO BUILD LESS EXTRAVAGANTLY. THEIR EQUIPMENT WAS BUILT IN FRANCE (LOW BID).
ACCOUNTABILITY	• DEFICIT: 150 MILLION 50% FROM FAREBOX	• 1973 LEGISLATURE FUNDED 50% OF DEFICITS	• MUNICIPALITIES ARE AUTONOMOUS WITH RESPECT TO THEIR INDIVIDUAL DEVELOPMENT OBJECTIVES & ASSOCIATED TRANSPORTATION REQUIREMENTS. HENCE THEY ARE RESPONSIBLE FOR THE OPERATION OF THEIR TRANSIT SYSTEM INCLUDING PLANNING, MANAGEMENT, SERVICE LEVELS, FARES & OPERATIONS POLICIES • FAREBOX RECOVERY OF OPERATING COST: 74.7% • PROJECTED DEFICIT FOR 1981: 72.5 MILLION • SINCE 1976 DEFICIT INCREASED BY APPROX. 10%	• PREDOMINANT PROVINCIAL AUTHORITY • 62% RETURN FROM FAREBOX IS QUOTA AIMS ARE NEARING ACHIEVING THIS GOAL. • PROVINCE INSISTS ON MINIMUM MAINTENANCE STANDARD IN ORDER TO QUALIFY FOR MAXIMUM SHARING OF 60% TO THE PROVINCE	FAREBOX RECOVERY 33,041,951 INCLUDES PASSES, TOKENS	• 37% [illegible] RECOVERY • FARE INCREASE, ALSO CUT SERVICE SO THEIR RIDERSHIP IS DECLINING

ACUTREC – COMPARISON OF CITIES VISITED

URBAN FORM

HOUSTON

- 3.1M POPULATION
  55% SQUARE MILES FLAT AGRICULTURAL AREA FOR EXPANSION, NOT CROWDED. OVER 1,000 PEOPLE PER WEEK MOVING INTO AREA. EMPLOYMENT IN METRO AREA INCREASED BY 67% IN 10 YEARS.
- WORLD'S PETROLEUM REFINERY CAPITAL
- OVER 50% OF U.S. PETRO-CHEMICAL MANUFACTURING CAPACITY
- INDUSTRY WELL DIVERSIFIED
- ECONOMIC FLUCTUATIONS HAVE LITTLE EFFECT ON ENVIRONMENT
- GROWTH AS A CITY--APPROX. 12 PER YEAR FOR 30 YEARS
- MODAL SPLIT
- SERVICE AREA 3¢ C.B.D. 34.35¢
- TRANSIT FARES 40¢ BASE + TWO 10¢ ZONES
- NO ZONING REGULATIONS DECENTRALIZATION OF BUS TO 3 CENTRAL BUSINESS DISTRICTS
- 1/3 OF OFFICE SPACE DOWNTOWN

CHICAGO

- 300,000 PEOPLE PER SQ. MILE IN INNER CORE
- EMPLOYMENT IS GROWING IN INNER CORE
- CBD EMPLOYMENT 459,099
- MODAL SPLIT
  CITY-WIDE N/A
  CBD 77% BY PERSON COUNT
  25% BY ACCUMULATION
- TRANSIT FARES 90¢ PLUS 10¢ TRANS FER FEE

VANCOUVER

- SERVICE AREA - 1,200,000
- CITY WIDE - MODAL SPLIT 30% ESTIMATE
- TRANSIT FARES: 50¢ ADULT

SAN DIEGO

- 450 SQ. MILES
- AREA OF JURISDICTION - 70% OF POPULATION, COUNTY OF SAN DIEGO.
- CITY POPULATION 800,000
- SERVICE AREA - 1.2 MILLION
- CBD EMPLOYMENT - 60,000 ±
- MODAL SPLIT:
  SERVICE AREA: 2.5%
  CBD 12.0% DOWNTOWN
- TRANSIT FARES
  LOCAL
  EXPRESS SERVICE $1.00
  SENIOR CITIZEN, HANDICAPPED 40¢ IN OFF-PEAK AND FULL FARE DURING PEAKS
  25¢ FOR STATION AREA DOWNTOWN

SACRAMENTO

- SERVICE AREA - 750,000
- URBAN - 275,740 (CITY OF SACRAMENTO)
- CBD EMPLOYMENT - 63,000
  CENTRAL CITY (INCLUDES CBD PLUS 1 MILE RADIUS)
- MODAL SPLIT TO TRANSIT SERVICE AREA 2%
- CBD 10% (15% FOR HOME TO WORK TRIPS)
- SM POPULATION IN 10 YEARS:
  URBAN: 1.3 MILLION
  COUNTY: 1 MILLION
  CITY: 1/3 MILLION

AREA IS DOUBLING IN POPULATION. STATE HAS GOOD DATA GATHERING ABILITIES.

EMPLOYMENT:

400,000	TOTAL
100,000	IN GOVT
47,000	MFG ETC.
6,000	AGRICULT. RELATED

CBD - 90,000 IN AREA OF SQ. MILES
20,000 PEOPLE LIVE DOWNTOWN

SAN FRANCISCO

- CITY POPULATION 650,000
- URBAN AREA - 2-3 MILLION
- CBD AREA - 240,000 OFFICE WORKERS.
  320,000 DAYTIME POPULATION
- AREA - 1 SQUARE MILE
- POPULATION IN SAN FRANCISCO DECLINING
- EMPLOYMENT INCREASING +40,000 JOB IN LAST 10 YEARS MODAL SPLIT (TO TRANSIT)
- CITY WIDE - MUNICIPAL RAILWAY 18%, BART 2% AUTO 80%
- MUNICIPAL RAILWAY
  SIX BART BUS, AUTO 24% WALK 2%

TRANSPORTATION POLICY

HOUSTON

- BY 1995 THEY PLAN TO BE CARRYING 450,000 P.P.D. DURING THIS SAME PERIOD, PASSENGERS CARRIED BY AUTOMOBILE BY 9 MILLION TO 15 MILLION PPD.
- PROPOSED RAIL SYSTEM SIMILAR TO ATLANTA (HEAVY RAIL HIGH CAPACITY) 13 MILES LONG, 1½ MILES DOWNTOWN UNDERGROUND, TO COST 1 BILLION. HOWEVER, ATTEMPTING TO REDUCE COSTS DUE TO FEDERAL COSTS.

CHICAGO

- 1979 ENVIRONMENTAL & COMMUNITY CONCERNS CAUSED PROBLEMS IN BUILDING FREEWAYS
- TRANSIT SYSTEM IN SURVIVAL POSITION AS IS IN NEGATIVE GROWTH
- RIDERSHIP DOWN 12% BECAUSE OF INCREASE IN FARES
- 99 MARKETING PLAN
- ROADS WERE DESIGNED FOR 25 YEARS, BUT ARE WEARING OUT IN 15 YEARS--ARE NOT BUILDING ADDITIONAL ROAD CAPACITY

VANCOUVER

- MID 70'S. PLAN WAS INITIATED BY PROVINCIAL GOVERNMENT TO EXPAND PUBLIC TRANSIT REGARDLESS OF COST
- NO NEW PROVINCIAL ROADS BEING BUILT
- NO MARKETING PROGRAM
- GREATER VANCOUVER MADE DECISION NOT TO BUILD FREEWAYS IN DOWNTOWN AREA

SAN DIEGO

- MTDB RESPONSIBLE FOR SHORT RANGE PLANNING IN MTDB AREA (PREPARATION, UPDATING AREA PLANS). GUIDES FISCAL, SERVICE & LEGISLATIVE ACTION FOR TRANSIT EXPANSION FOR NEXT 5 YR. PERIOD.
- STATE LAW REQUIREMENT - ALL NEW BUSES HAVE TO BE WHEELCHAIR ACCESSIBLE
- SENATOR A STRONG SUPPORTER OF LINE - WROTE LEGISLATION REGARDING FIXED TRANSIT GUIDEWAY FUNDING
- DOWNTOWN PARKING POLICY - NO PARKING RESTRICTIONS LEFT TO MARKET PLACE
- 1974 VOTE - 25% OF COUNTY'S PORTION OF STATE GAS TAX USED AS CAPITAL FOR DESIGN/CONSTRUCTION OF A PUBLIC TRANSIT GUIDEWAY
- TRANSPORTATION COMMISSION SELECTS PROJECTS - FUNDS CAN BE USED FOR CONSTRUCTION AND EQUIPMENT
- RAILWAY COMPANIES - ACQUIRED TOTAL RAILWAY & RT. OF WAY FOR 18.1 MILLION
- IF NO RIGHT OF WAY PROJECT - WOULD NOT HAVE PROCEEDED

SACRAMENTO

- TRYING TO CONTROL MOVEMENT OF PEOPLE BY CAR - 1ST PRIORITY IS TRANSIT, WHEN TRANSIT NEEDS ARE MET, RESIDUAL AMOUNT GOES TO ROADS.
- AT PRESENT - BUS SERVICE UNRELIABLE
- ENERGY IS A SPECIFIC POLICY ADOPTED BY THE STATE - ENERGY EFFICIENT PROGRAMMES HAVE HIGH PRIORITY.
- TIME FRAME OF 7-10 YEARS FROM INCEPTION OF A PLAN TILL COMPLETED.

SAN FRANCISCO

RAPID TRANSIT DISTRICT FORMED IN 1957, BY STATE LEGISLATURE.

TRANSPORTATION SYSTEM

HOUSTON

- VEHICLES: 760 OWNED
  355 OF THESE ARE USABLE
  75 CONTRACTS FOR A TOTAL OPERATIONAL FLEET OF 430
- EXTENSIVE FREEWAY SYSTEM DEVELOPED OVER LAST 25-30 YEARS
- PUBLIC TRANSIT SYSTEM, ALTHOUGH IN EXISTENCE FOR MANY YEARS, IS NOW BEING IMPROVED UPON & EXPANDED
- AUTOMOBILE REACHED A HIGH POINT OF MOBILITY IN 1969-71, NOW BACK TO 1963 LEVEL
- STATE AND MTA ARE ATTEMPTING TO INCORPORATE PUBLIC TRANSIT & HIGH OCCUPANCY IN FREEWAY SYSTEM
- EXCLUSIVE BUS LANES & CONTRA-FLOW LANES ARE SUCCESSFUL OPTIONS
- TRANSIT RIDERSHIP
  ANNUAL 45,999,099
  DAILY 136,099
  ANNUAL RIDES/CAPITA 17.3 RIDES PER CAPITA

CHICAGO

- 2.4M. BY/SE:1,370 RAIL CARS
- TRANSPORTATION IS RADIAL IN NATURE
- HIGHWAYS, FREEWAYS ON A GRID SYSTEM
- 6000 EXISTING ROLLING STOCK & ASSOCIATED EQUIPMENT
- 50,000 PARKING STALLS IN INNER CORE
- RIDERSHIP
  ANNUAL: 537,691,930 BUS
  DAILY: 154,737,139 RAIL
  ANNUAL RIDES/CAPITA: 189
- C.T.A. 7 MEMBERS WITH MAYOR APPOINTING 4 AND STATE 3
- C.T.A. WORKING CLOSELY WITH PRIVATE SECTOR TO AID DEVELOPMENT
- ROADS & TRANSIT BOTH IN BAD FINANCIAL SHAPE SPENDING 150M PER YEAR FOR ROAD RESURFACING

VANCOUVER

- 865 BUSES, 295 COACHES, 2 SEABUSES
- ADVANCED LIGHT RAIL SYSTEM WITH 2 MILES COMPLETED 1985 - COST 600 MILLION. REST BY 1986.
- ORDERED 114 CARS - ESTIMATED TO HAUL 25,000 PASSENGERS PER HOUR.
- 22,000 MILES OF PROVINCIAL ROADS - NO NEW PROVINCIAL ROADS BEING BUILT
- DAILY RIDERSHIP:
  96,000,000 APRIL TO MAY
  ANNUAL RIDES/CAPITA: 80 RIDES PER CAPITA
- FUNDING/POLITICAL STRUCTURE
- PROVINCIAL MINISTER MAKES UNILATERAL DECISIONS; HAS HIGH PROFILE

SAN DIEGO

- 230 REVENUE SERVICE BUSES
- LRT - 15.9 MILES LONG
- ALL AT-GRADE INCLUDING DOWNTOWN PORTION.
- 18 STATIONS - ALL STREET LEVEL LOADING
- 14 VEHICLES TO BE ORDER CONSTRUCTED ON SINGLE TRACK - PRESENTLY DOUBLE TRACKING.
- CARRIES 11,000 PPD, 20 MINUTE HEADWAYS
- 2000 PARKING SPACES ALONG ROUTES
- BUS FEEDER SYSTEM TO STATIONS
- HANDICAPPED LIFTS - ONE PER CAR
- DOWNTOWN PARKING POLICY NO PARKING RESTRICTIONS LEFT TO MARKET PLACE
- 39,000 PARKING STALLS IN CBD

SACRAMENTO

- 230 BUSES
- PLANNING A 15 MILE LRT SYSTEM.
- NO HEAVY RAIL STUDIES UNDERWAY
- DESIGNED FOR 15 MINUTE HEADWAYS OR PEAK HOURS - 30 MINUTES OFF-PEAK
- DESIGN HAS A LOW COST INITIALLY WITH RAPID UP-GRADING
- WILL COST 113 MILLION FOR 19 MILES
- WILL HAVE 27 CARS
- PLANNING A TOTAL RIDERSHIP OF 80,000 PER DAY, WITH 35,000 PER DAY ON A 2 LEG SYSTEM.

SAN FRANCISCO

TOTAL VEHICLES: 76 PCC CARS, 535 STANDARD BUSES, 99 LRV VEHICLES, 345 TROLLEY COACHES, 42 CABLE CARS

SERVICE BY:

1. MUNI:
   BUS, LRV
   528 DIESEL BUSES
   335 TROLLEYS
   26 CABLE CARS
   - TOTAL RIDERSHIP INCLUDING LRT: 700,000 PPD
   - LRV - 100 CARS
     6 MILES UNDERGROUND
2. CABLE CARS:
   - 5 ROUTES SERVICE - 9 MILES LONG
   - MOSTLY TOURIST ATTRACTION
3. BART - COMMUTER RAIL SYSTEM
   - HIGH CAPACITY SYSTEM
   - RIDERSHIP ABOUT 158,000 PPD (CAPACITY 250,000 PPD)
   - 10 CAR TRAINS (HEADWAYS 4 VEHICLES)
   - 500 VEHICLES
   - 20,000 PARK AND RIDE STALLS
4. ALEMEDA CONTRA CORTA COUNTY BUS SYSTEM
   - 87% DIESEL BUSES (175 FLYER BUSES - NOT SATISFACTORY CONDITION)
5. STREET CARS
   - NEARLY ALL OF TRANSIT SYSTEM WAS PRIVATELY OWNED
   - BY 1956 ALL TRANSIT SYSTEMS WERE IN PUBLIC OWNERSHIP

FUNDING & POLITICAL STRUCTURE

HOUSTON

- CITY HAS MAYOR/CITY MANAGER SYSTEM
  14 COUNCILMEN:
  5 AT LARGE
  9 BY DISTRICTS
- MAYOR, COUNCIL HAVE NO SAY
- METRO IS A GOVERNMENT WITH THE POWER OF TAXATION. BOARD ACTIONS CARRY LEGAL WEIGHT --IS A CREATION OF THE STATE OF TEXAS THROUGH PUBLIC REFERENDUM
- IN HOUSTON NO STATE OR LOCAL PERSONAL OR CORPORATE INCOME TAXES
- IS A 6¢ SALES TAX (¼¢ STATE, 1¢ CITY, 1¢ TRANSIT AUTHORITY IN 1979)
- AC STATE SALES TAX GENERATES $2 BILLION PER YEAR
- SEVERANCE TAX ON FOSSIL FUELS GENERATES $2.5-$3 BILLION/YEAR
- STATE FUEL TAX 5¢/GALLON (LOWEST IN U.S.)
- 25% OF FUEL TAX GOES TO STATE SCHOOLS
- 1979 1¢ SALES TAX REFERENDUM PASSED BY 57% MAJORITY

CHICAGO

- MAYOR COCHAIRS WITH STATE OFFICIALS ON INTER STATE COMMITTEE DEALING WITH BOTH ROADS AND TRANSIT.
- CHICAGO HAS STRONG COUNCIL - WEAK MAYOR - EVERYTHING OVER $5,000 HAS TO BE APPROVED BY COUNCIL.
- CTA - 7 MEMBERS WITH MAYOR APPOINTING 4, STATE 3.
- BOTH ROADS & TRANSIT IN BAD FINANCIAL STATE.
- FEDERAL FUNDING - BUS-CITY 20%
  M DOLLARS 250M/50M
- STATE CONTRIBUTES 50%/YEAR FOR CAPITAL EXPENDITURES.
- 70% OF NEW CAPITAL TO TRANSIT.
- 30% TO ROAD REHABILITATION AREA.
- OPERATING GRANTS FROM FEDERAL GOVT. PLUS 1¢ REGIONAL SALES TAX, ¼ OF 1¢ IN ADJOINING 5 COUNTIES & FUTURE DEDICATED CIGARETTE TAX TO GENERATE ADDITIONAL 20 MILLION.
- 10 YEARS AGO, BYDGET WAS BALANCED, NOW HAVE 300 MILLION ANNUAL DEFICIT ON 600 MILLION OPERATING COSTS.
- ROAD RESURFACING - COSTS $150 MILLION/YEAR NOT BUILDING ADDITIONAL ROAD CAPACITY.

VANCOUVER

- FUNDING OF U.T.A. - ESTABLISHED LEASE AGREEMENT TO PURCHASE ROLLING STOCK ($300 MILLION PERFORMANCE BOND BY AETNA INSURANCE)
- FEDERAL GOVERNMENT PARTICIPATION - FUNDING 1¢ OF SYSTEM - FEDERAL GRANT OF 60 MILLION.
- 3 JURISDICTIONS
- ULTIMATE CONTROL LIES WITH THE PROVINCE
- TRADITIONAL RELATIONSHIP BETWEEN FED./PROV. GOVERNMENT EXISTS ON ROADS
- CURRENT VALUE OF ASSETS IS 100M (U.T.A.)
- U.T.A. REQUIRES 35% FAREBOX RECOVERY (OPERATING CAPITAL COSTS)
- REMAINING 65% - PROVINCE (FUNDS 75%, LOCAL COMMUNITIES 25%
- CAPITAL COSTS OF EQUIP. ETC. TREATED AS A MORTGAGE
- FINANCE OF NEW TROLLIES THROUGH AMERICAN BANKS ($45 MILLION)
- TOTAL BUDGET FOR GREATER VANCOUVER AREA IS $129M (1981)
- 114 CARS FOR A.L.R.T.
- COMPLETE PACKAGE OF DESIGN, TRUCKAGE, FROM U.T.D.C. (URBAN TRANSPORTATION DEVELOPMENT CORP. LTD.

SAN DIEGO

- MTDB LRT PROJECT FUNDED TOTALLY WITH STATE AND LOCAL MONIES, EXCEPT 4M BY FEDERAL GOVT. LRT FUNDED BY - REVENUE FROM MOTOR VEHICLE FUEL TAX ($.7¢ PER GALLON).
- 25% OF COUNTY'S GAS TAX USED AS CAPITAL FOR DESIGN AND CONSTRUCTION OF PUBLIC TRANSIT GUIDEWAY (APPROVED 1974).
- 87.5% THROUGH ARTICLE 19 FUNDS
- GENERATED BY TAX REVENUE BASED ON RETAIL SALES WITHIN A COUNTY.
- APPENDEMENT - TAX COLLECTED FROM SALE OF FUEL ADDED TO GENERAL FUND.
- 1979 APPENDEMENT TO GREATER AMOUNT OF ¼¢ OF 6¢ SALES TAX, FOR TRANSIT EXPENDITURE.

HIGHWAY ADMINISTRATION FUNDS .5M FOR GRADE-CROSSING SIGNALS AND GATES FOR TROLLEY SYSTEM.

LOCAL FUNDS

- IN ADDITION TO ALL TAXES PROVIDED, A SPECIAL TAX NOT OVER 10¢ PER $100.00 OF ASSESSED VALUE OF REAL & PERSONAL PROPERTY IN CITY - USED FOR COSTS OF PUBLIC TRANSIT SYSTEM.

SACRAMENTO

- LOCAL GOVT. CAN PROCEED WITHOUT STATE APPROVAL (NOT AS YET HAPPENED)

THE FIVE YEAR PROGRAMME IS COMMITTED TO SPEND:
700M FOR REHABILITATION
600M FOR MANAGEMENT TECHNIQUES

THE PROBLEM FOR CALIFORNIA IS COMPOUNDED BECAUSE THE STATE ONLY RECEIVES BACK 60¢ OF FUNDS DONATED TO THE FEDERAL SYSTEM.

SIMILARLY THE LOCAL COMMUNITIES RECEIVE /0¢ OF THE GAS TAX BACK. (75%) TRANSPORTATION DEVELOPMENT ACT

(STATE)
FIRST TRUST FUND
PROVIDES ¼ BILLION PER YEAR, AND ¼ CENT OF STATE FUEL TAX, OR 36.7M, OR 15.00/CAPITA.

THE FUNDS ARE ALLOCATED BY LOCAL AGENCIES, WHICH ARE APPOINTED BY THE LOCAL GOVERNMENTS, BUT THEIR RECOMMENDATIONS MUST BE APPROVED BY STATE.

THERE IS ONE AGENCY PER JURISDICTION (COUNTY).

THE FUNDS ARE DIVIDED AS FOLLOWS:
70% TO TRANSIT
15% TO ROADS
15% TO ADMINISTRATION

SECOND TRUST FUND - STATE TOTAL OF 67 MILLION
100% GOES TO TRANSIT ALLOCATED ¼ RURAL POPULATION, ¾ URBAN TRANSPORTATION.

SAN FRANCISCO

- MAYOR - COUNTY BOARD OF SUPERVISORS (11 TOTAL)

FUNDING BART

- SYSTEM COMPLETED IN 1972 AT $1.6 BILLION
- OPERATING COST $120M/YEAR 75% OF OPERATING COST IS LABOUR

MUNI - CAPITAL COST - $330M (68-1980) LRV SYSTEM

- OPERATING COST $146M/YEAR (81-82)

EVALUATION CRITERIA & ALTERNATIVES

HOUSTON

- RECOMMENDED RAIL (LIGHTRAIL) AS BUSES DO NOT HAVE SAME PERMANENCY OR COMMUNITY DEVELOPMENT.
- ALSO RECOMMEND DEVELOPING TRANSIT TO SERVE HIGH DENSITY AREAS AND A PLAN TO EFFECTIVELY DEVELOP ROADS & TRANSIT IN CONJUNCTION WITH LOW DENSITY OR NEW AREAS.
- ESTABLISH GAS TAX AS A %, NOT A FIXED AMOUNT.

VANCOUVER

- TO GO A.L.R.T. RATHER THAN L.R.T. NEW WESTMINSTER LINE WITH 2 MILES COMPLETED BY 1985 REST IN 1986 - 20km LONG - COST 600M. ESTIMATED TO CARRY 25,000 PASSENGERS PER HOUR SYSTEM TO SAVE 3 MILLION/YEAR OPERATING COSTS 4 MILLION/YEAR ENERGY COSTS OVER BUS SYSTEM

SAN DIEGO

EVALUATION

- NOT ANTICIPATING MAJOR LAND USE CHANGES IN LRT CORRIDOR.
- NEW FUEL TAX OF 2¢/GALLON - 1983?
- CITY EXPECT TO BUILD A FEW NEW MAJOR ROADWAYS
- ESTIMATE 100M/YEAR ON NEW ROAD
- ESTIMATE 50M/YEAR - SAN DIEGO FOR PUBLIC TRANSIT.

SACRAMENTO

EVALUATION CRITERIA:

- EARLY PLANNING FOR LRT WAS OPPOSED, BUT NOW WAS ACCEPTANCE IN THE COMMUNITY.
- HAD MANY PUBLIC HEARINGS TO SELL THE LRT CONCEPT - IF THEY HAD TO DO IT OVER AGAIN - THEY WOULD NOT EXPAND BUS SYSTEM.

SAN FRANCISCO

EVALUATION CRITERIA

REDUCTION OF STATE TAX REVENUE BY 2/3, BASED ON 1975 ASSESSMENT RESULT WAS CUT IN POLICE, FIRE AND TRANSIT SERVICE.

- AC TRANSIT SEE IMMEDIATE FAREBOX RETURN TARGET INCREASE TO 50%
- BELIEVE THEY CAN ACCOMPLISH A GREAT DEAL WITHOUT RELYING ONLY ON FARE INCREASES
- TREND IN U.S. CITIES IS THAT USER HAS TO PAY

AC TRANSIT

- NO DEBT SERVICING COSTS NOW THAT BOND HAVE BEEN PAID OFF

ACCOUNTABILITY

HOUSTON

- PRESENTLY 32% FAREBOX RECOVERY, WITH SLIGHT REDUCTION LIKELY IN 1981
- TAX GENERATES $360 M/yr NOW HAVE RESERVE FUND

CHICAGO

- INTER-GOVERNMENTAL COOPERATION & PLANNING
- TO GET FEDERAL FUNDING LOCAL PLAN MUST HAVE FEDERAL APPROVAL
- FAREBOX RECOVERY 47-48%

VANCOUVER

- IF OPERATORS OF TRANSIT DO NOT ACHIEVE 35% FAREBOX RECOVERY, COMMUTERS MUST SUBSIDIZE THE LOSS.
- EXCESS OVER 35% IS RETURNED TO THE COMMUNITY

FUNDING LEVELS ARE AS FOLLOWS:
35% FAREBOX RECOVERY.
REMAINING 65% THE SPLIT IS AS FOLLOWS:

	PROVINCE	LOCAL (REGION)
NOW	75%	25%
1982	70%	30%
1983	66 2/3%	33 1/3%

SAN DIEGO

- ALL TRANSIT SYSTEM 43% FARE BOX RECOVERY
- NO PROPERTY TAX FOR TRANSIT AFTER PROPOSITION 13.

SACRAMENTO

- RECOVERY 24% NOW GOING TO 40% IN 5 YEARS
- OPERATING DEFICIT 25M PER YEAR
- RAIL IS REQUIRED TO RETURN 40% COMMUTER FAREBOX, 55% INNER CITY FAREBOX

SAN FRANCISCO

- BART: FARE BOX RECOVERY 45%, WITH ADVERTISING 51%
- LRT SYSTEM: OPERATING COST $146M/YEAR (81,82) FAREBOX RECOVERY APPROX. 1/3
- AC TRANSIT: EAST BAY AREA FARE'X RECOVERY 31%

- FARE BOX RECOVERY - APPROX. 1/3
- GENERAL CIVIC FUND 1/3 (MOSTLY PROPERTY TAX)
- STATE, FEDERAL SUBSIDY TDA 1/3